TEMPORARY SILT FENCE 1605.01

A Temporary Silt Fence is commonly used at the toe of a fill section to prevent off-site sedimentation. It is made of permeable filter fabric buried at the bottom, stretched, and supported by steel posts. The silt fence intercepts sheet flow, decreases runoff velocity, and causes suspended sediment particles to settle. It may also be used to divert water flow to protected outlets. Silt fences shall not be installed across streams, ditches, waterways, or any other areas of concentrated flow.

AREAS OF USE:

- Where runoff can accumulate behind the silt fence without damaging the fence or the inundated area behind the fence.
- Silt fence cannot withstand high heads, so locate it where only shallow pools will form.
- Wetlands or other areas where the ground water level is near the surface and prohibits the excavation of silt ditches.
- Areas where the subsurface is not rock or tree roots so that posts can be driven into the ground and the filter fabric can be trenched into the soil.
- Toe of a fill section on a steep slope where topography prohibits silt ditch excavation.
- Areas where Right of Way and/or construction easement is limited.
- Business and residential areas where safety and aesthetics are a concern.

DESIGN CRITERIA:

- Drainage area is not greater than ¼ acre per 100 ft. of silt fence.
- Silt Fence should be stable for the 10-yr. peak storm runoff.
- Where all runoff is to be stored behind fence, the maximum slope length behind the silt fence should not exceed the specifications shown in the table below.

Slope	Slope Length (ft)
<2%	100
2 to 5%	75
5 to 10%	50
10 to 20%	25
>20%	15

Table 6.62, Erosion and Sediment Control Planning and Design Manual, NCDENR

- Depth of impounded water shall not exceed 1.5 ft. behind fence.
- Silt Fence shall not be used alone below graded slopes greater than 10 feet in height.
- Design life of filter fabric should be at least 6 months.

TEMPORARY SILT FENCE  **1605.01**

CONSTRUCTION SPECIFICATIONS:

- Filter fabric shall be buried a minimum of 4 in. laterally, and 8 in. deep and soil or gravel firmly tamped.
- Post Spacing shall be a maximum of 6 ft. without woven wire backing, and 8 ft. with woven wire.
- Posts shall be installed so that no more than 3 ft. protrudes above the ground.
- Ensure that the height of the filter fabric does not exceed 24 inches above the ground surface.
- Filter Fabric shall be attached to posts and woven wire by wire or other acceptable means.
- Filter Fabric shall be overlapped a minimum of 18 in. at all splice joints.
- Curl each end of the silt fence uphill in a "J" pattern to prevent release of untreated stormflows.

MATERIAL SPECIFICATIONS:

Material	With Wire	Without Wire
Fabric	Type 3 Class A	Type 3 Class B
Steel Posts length	5 ft.	5 ft.

- Posts, woven wire, and wire staples shall meet the requirements of Section 1605-2 of the Standard Specifications.
- Filter fabric shall be a minimum of 36 inches wide.
- Proper filter fabric certifications are required to assure adherence to Specifications.
- Woven wire shall be a minimum of 32" in width and with a minimum of 6 line wires with 12" stay spacing.
- Top and bottom strands of woven wire shall be a minimum of 10 gauge, and middle and vertical wires shall be a minimum of 12½ gauge.

Prior to installing the silt fence, a trench needs to be excavated so that the filter fabric can be buried with compacted soil or gravel backfill. Thorough compaction of the backfill is critical to the performance of the silt fence. Temporary Silt Fence can be installed with or without a woven wire backing. Periodic inspections and maintenance of the fence will need to be done, especially after each rainfall.

PAYMENT:

- Installation of measure:

Temporary Silt Fence — Linear Foot

- Silt cleanout of device:

Silt Excavation — Cubic Yard

MAINTENANCE:

- Inspect silt fence on a regular basis and after each significant rainfall; make any repairs immediately.
- Inspect silt fence to be sure bottom of filter fabric is keyed in properly.
- Remove and dispose of all silt accumulations when depth reaches one-half the height of the filter fabric. Do not undermine the fence during cleanout.
- Remove and replace deteriorated or clogged silt fence.
- Silt fence removed for access must be replaced at the end of each day's operation.
- Install additional posts or wire backing if fence is sagging.

TYPICAL PROBLEMS:

- Improper installation (bottom of fabric not buried or keyed-in properly).
- Failure due to installation across streams, ditches, waterways, and other areas which receive concentrated flow.
- Excessive silt accumulations.
- Knocked down or cut by fallen trees, rocks, equipment, excess water flows, or for work access.
- Inadequate access to maintain and remove fence.
- Becoming clogged-up with silt particles.